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**Date:** September 22, 2003

**To:** Masaharu Ishikawa  
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**From:** Karen L. Elbing, Ph.D.

**Re:** EXPRESSION OF XENOGENOUS (HUMAN)  
IMMUNOGLOBULINS IN CLONED, TRANSGENIC  
UNGULATES  
U.S. Patent Application No. 09/988,115  
Our Reference: 50195/008003

**Pages:** 10 pages

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September 22, 2003

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EXPRESSION OF XENOGENOUS (HUMAN) IMMUNOGLOBULINS IN  
CLONED, TRANSGENIC UNGULATES  
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Dear Jim and Dr. Ishikawa:

We have received the attached Restriction Requirement in which the Examiner has divided the claims into the following separate groups:

Group I	Claims 1-19 and 21-29	Transgenic ungulates or ungulate somatic cells comprising one or more nucleic acids encoding a xenogenous immunoglobulin gene which undergoes rearrangement;
Group II	Claim 20	A hybridoma expressing a xenogenous Ig molecule;
Group III	Claims 30-38	Method of producing transgenic ungulates by transfer of a cell, or its chromatin mass or nucleus, into an oocyte, wherein the cell comprises a mutation in an endogenous antibody heavy chain or light chain nucleic acid;
Group IV	Claim 42	Method of producing transgenic ungulates comprising inserting into an oocyte a cell, or its chromatin mass or nucleus, where the cell

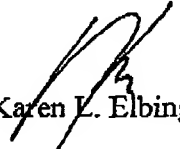
		comprises a mutation in an endogenous antibody gene;
Group V	Claim 43	A method of producing transgenic ungulates comprising inserting into an oocyte a cell, or its chromatin mass or nucleus, where the cell comprises a mutation in an endogenous $\alpha$ -1,3-galactosyltransferase gene;
Group VI	Claim 44	Method of producing transgenic ungulates comprising inserting into an oocyte a cell, or its chromatin mass or its nucleus, where the cell comprises a mutation in an endogenous prion gene;
Group VII	Claims 45 and 46	Method of producing transgenic ungulates comprising inserting into an oocyte a cell, or its chromatin mass or nucleus, where the cell comprises a mutation in an endogenous J gene or a nucleic acid encoding a J gene;
Group VIII	Claim 47	Ungulate serum comprising human polyclonal immunoglobulins; and
Group IX	Claim 48	Ungulate milk comprising human polyclonal immunoglobulins.

The deadline for replying to this Restriction Requirement, which involves choosing one of these groups for initial examination, is **OCTOBER 11, 2003**, with extensions available to March 11, 2004 upon payment of fees. With your instructions, kindly also let us know whether you wish, for the record, to disagree with the Examiner's claim groupings.

We note that more than one group can be chosen for examination at this time simply by filing one or more divisional applications.

Please feel free to contact me or Michael Belliveau if you have any questions.

Very truly yours,

  
Karen L. Elbing, Ph.D.

Enclosure

cc w/o enc.:

Michael J. Belliveau, Ph.D.